

SECTION 4.180: SEPTIC SYSTEM DENITRIFICATION REGULATION

4.180.1: AUTHORITY

The following Marion Sanitary Code regulation is adopted pursuant to the Marion Board of Health in accordance with the provisions of MGL c. 111, section 31.

4.180.2: PURPOSE

The purpose of this regulation is to ensure that new and expanded flows from septic systems are not discharging excessive amounts of new nitrogen which contributes to the ongoing degradation of the Town's coastal waters.

4.180.3: STATEMENT OF PURPOSE

In connection with, and for the purpose of, adoption of this regulation the Board of Health makes the following findings pursuant to Massachusetts General Laws (MGL) Chapter 111, section 31 and all other enabling authority.

4.180.3.1: The presence of excess nitrogen in the town of Marion's water resources contributes to the growth of undesirable algae, that causes reducing dissolved oxygen and water clarity, and impairing habitat, and degrading the waters for shellfishing, recreation, and other public purposes.

4.180.3.2: On-site septic systems are a primary source of nitrogen to our coastal waters.

4.180.3.3: On-site septic systems remove no more than 25% of the nitrogen in our wastewater.

4.180.3.4: The installation of On-site septic systems adds new nitrogen to the town's nitrogen sensitive coastal waters.

4.180.3.5: On-site septic system technologies exist that can reduce nitrogen by at least 50%.

4.180.4: DEFINITIONS

Unless otherwise defined in the Marion Sanitary Code, all terms used shall have the definitions stipulated in 310 CMR 15.000 State Environmental Code, Title 5.

Alternative System – A Massachusetts Department of Environmental Protection approved system designed to provide or enhance the removal of nitrogen in on-site sewage disposal.

Cesspool - A pit with open-jointed linings or holes in the bottom and/or sidewalls into which raw sewage is discharged, the liquid portion of the sewage being disposed of by seeping or leaching into the surrounding soils, and the solids or sludge being retained in the pit. Cesspools are a nonconforming system.

Denitrification System - An on-site denitrification wastewater disposal technology that is intended to meet a nitrogen discharge standard of not more than 19 milligrams/liter (mg/l) and is approved by the Massachusetts Department of Environmental Protection (MassDEP) for general use, provisional use, or pilot program use for nitrogen reduction. Denitrification systems include self-contained, zero discharge, stand-alone composting toilets, used in conjunction with a greywater system, approved by the Massachusetts Board of State Examiners of Plumbers and Gas Fitters.

Existing Systems: Any on-site subsurface sewage disposal systems including nonconforming systems that existed prior to the effective date of this regulation.

Failed System: An existing system which fails to protect public health and safety or the environment as set forth at 310 CMR 15.303 or 15.304, including nonconforming systems at the time of transfer.

New Construction: The construction of a new building for which an occupancy permit is required, or an increase in the actual or design flow to any system, or an increase in the actual or design flow to any nonconforming system, or an increase in the design flow to any system above the existing approved capacity. New construction shall include the purposeful demolition and replacement of an existing building.

Nonconforming System – Any system which is not in full compliance with the standards and requirements of 310 CMR 15.000 and the Marion Sanitary Code, and for which a variance or local upgrade approval has not been obtained. Nonconforming systems include, but are not limited to cesspools, privies, failed systems, and systems with a design flow above 10,000 gpd.

On-site System or Disposal System or On-site Subsurface Sewage Disposal System or System - A system or series of systems for the treatment and disposal of sanitary sewage below the ground surface on a facility.

- a) The standard components of the system are: a building sewer; a septic tank to retain solids and scum; a distribution system; a soil absorption system containing effluent distribution lines to distribute and treat septic tank effluent prior to discharge to appropriate subsurface soils; and a reserve area.
- b) These terms also include tight tanks, shared systems and alternative systems. Unless the text of 310 CMR 15.000 indicates otherwise, these terms also include nonconforming systems.

Pressure-dosed System - The application under pressure of septic tank or treatment unit effluent to the entire soil absorption system at a prescribed rate.

Soil Absorption System – A system of trenches, galleries, chambers, pits, fields and beds together with effluent distribution lines and aggregate which receives effluent from a septic tank or treatment system.

Upgrade - The modification of one or more components of an on-site septic system or the design and construction of a new on-site system which is intended to bring a nonconforming system into conformance with 310 CMR 15.000. Relocation or substantial redesign and reconfiguration of a nonconforming system is an upgrade. An emergency repair is not an upgrade.

4.180.5: NEW CONSTRUCTION (NEW SYSTEMS OR INCREASE IN FLOW)

Construction of all on-site septic systems for new construction located within the town shall require a denitrification system that meets the performance standards as provided in Section 4.180.7, except where the Board determines that it is feasible to connect the building or any part of the building for which approval is sought to a sanitary sewer.

4.180.6: NONCONFORMING AND FAILED SYSTEM UPGRADE AT TIME OF TRANSFER

4.180.6.1: All systems shall be inspected at or within two years prior to the time of transfer of title to the facility being served by the system.

4.180.6.2: An existing system that is determined by inspection to be a nonconforming failed system at the time of transfer of title shall require as a component of its upgrade a denitrification system that meets the performance standards as provided in Section 4.180.7 either prior to the transfer of title or within the time period established by the Board.

4.180.7: PERFORMANCE STANDARD FOR DENITRIFICATION SYSTEMS

Denitrification systems shall be required to be installed, operated and maintained to achieve a system performance target of 19 mg/l or less for the total nitrogen (TN) in effluent measured on a rolling median average of sampling results.

4.180.8: CONNECTION TO SEWER

In the event public sewer becomes available to the property or facility after the installation of a denitrification system pursuant to this regulation, the property or facility served by the denitrification system shall be connected to public sewer as determined by the following formula:

20 years – (minus) the age of the existing denitrification system = the number of years to connect to public sewer. For example, if the denitrification system is 11 (eleven) years old, the owner will be granted 9 (nine) years to connect to public sewer (20-11=9).

4.180.9: VARIANCE

A variance may be granted by the Board of Health upon an application for a variance by the property owner or his agent. In reviewing the application the Board may consider, without limitation, whether an alternative system will result in equal or greater nitrogen reduction or that full compliance with the regulation is infeasible due to site or technical considerations.

4.180.10: OPERATION AND MAINTENANCE AGREEMENTS

4.180.10.1: At all times the permit holder shall maintain and comply with an Operation and Maintenance Agreement, which is subject to the prior approval of the Board of Health and its consultants and agents.

- (a) Such Operation and Maintenance Agreement shall include a provision requiring the system operator to take immediate corrective action, and notification to the Board of Health within seven (7) days, if the TN effluent limits are not in compliance with this regulation.
- (b) If a condition of the approval of an enhanced denitrification system requires that it be operated by a certified system operator, the owner or operator shall provide the Board with documentation certifying that said system will be operated by an operator certified by the Board of Certification of Operators of Wastewater Treatment Facilities.
- (c) The permit holder shall notify the Board of Health in writing within seven (7) days of any cancellation, expiration or other change in the terms and/or conditions of the Operation and Maintenance Agreement.
- (d) The permit holder shall repair, replace, modify, or take other action as required by the Board, if the Board determines that the system is not capable of meeting the required reduction in nitrogen the effluent.
- (e) A system shall not be considered a failed or nonconforming system due to its inability to meet the required reduction in nitrogen provided it was installed, operated, maintained and monitored in accordance with the regulations and applicable orders of the Board. Failure to comply with an order of the Board shall be considered a violation of the regulations.

4.180.11: MONITORING

4.180.11.1: The Board may require additional maintenance and monitoring of approved systems as it deems reasonable and necessary to ensure that the system is performing as designed and approved including, without limitation, monitoring that exceeds the monitoring specified in the Approval Letter issued by the MassDEP. Where applicable, the Board of Health shall require semi-annual measurement of Total Nitrogen in the effluent for the first two years after permit approval. After two years and upon a finding of compliance with this regulation, the Board of Health may reduce such monitoring to once a year.

4.180.11.2: Any required sample analysis shall be conducted by an independent U.S. Environmental Protection Agency or MassDEP approved testing laboratory, or an

approved independent university laboratory. It shall be a violation of this regulation to falsify any data collected pursuant to an approved testing plan, to omit any required data or to fail to submit any report required by such plan. All measurements and samples collected shall be collected, transported and stored in such manner as outlined in the most recent edition of Standard Methods for the examination of Water and Wastewater, American Public Health Association and the latest EPA analytical procedures.

4.180.11.3: Any person or entity that owns, operates, inspects or monitors an alternative on-site septic system in Marion shall provide the results of all monitoring and inspections to the Board of Health, or an entity designated by the Board of Health, in a format designated by the Board. All reports regarding maintenance, monitoring or inspections of alternative septic systems shall be submitted within 30 days of the time when the maintenance, inspection or monitoring was initiated.

4.180.11.4: No operating permit shall be issued until the applicant has filed, with the Registry of Deeds, a notice indicating the presence of a system approved hereunder, and the existence of monitoring and reporting requirements and the requirement for a service contract for the life of the system. Proof of such recording shall be provided to the Board of Health prior to issuance of an occupancy permit.

4.180.11.5: Such operation permit shall be renewed prior to transfer of ownership of property.

4.180.11.6: Any other conditions that may be deemed necessary by the Board of Health, including, but not limited to, issuance of a warranty for the system to be installed.

4.180.12: GENERAL CONDITIONS

4.180.12.1: Design, installation and use of an alternative septic system shall be in strict conformance with the company's MassDEP approved plans and specification, the MassDEP Approval a Letter and 310 CMR 15.000.

4.180.12.2: Prior to the issuance of a Certificate of Compliance by the Board of Health, the System Installer and Designer shall provide, in addition to the certifications required by 310 CMR15.021(3), certifications in writing to the Board of Health that the system has been constructed in compliance with the terms of the Approval Letter.

4.180.13: SEVERABILITY

The invalidity of any section or provision of this regulation shall not invalidate any other section or provision thereof.